

Remarks

In the Office Action being responded to claims 1, 2, 5, 6 and 10 stand rejected, 35 USC 102 (a) or (e), on Lee et al patent 6,140,456 (hereinafter Lee) and claims 1-3 and 5-10 stand rejected as being unpatentable over the combination of Japanese Application Publication Number 200071451 (hereinafter JP '451) and Lee. In response thereto applicants have amended claims 1, 3, 5, 6, 7, and 10 to recite applicants' invention more precisely and have canceled claims 8 and 9 to limit the issues being considered in this application.

Parylene polymers are well known and have been used in a variety of situations to take advantage of various different properties of these materials, as evidenced by Lee and JP '451. However, applicants' invention is directed to a very specific combination involving such polymers as a protective coating to protect a substrate from contaminant exposures, which combination is neither disclosed nor suggested by Lee or JP '451.

Lee teaches taking advantage of the low dielectric properties of these polymers and discloses their use " for the manufacture of low dielectric films with high thermal stability and sufficiently strong to withstand planarization and polishing for the manufacture of integrated circuits." (Abstract). That a multilayer parylene composition can be used as a low dielectric constant material for use between conductors on a semiconductor substrate is not relevant to applicants' invention. Applicants submit that Lee is certainly not an anticipation of applicants' claims, as now amended. Further, applicants submit that Lee actually and definitely teaches away from applicants' invention by pointing out that paralyne C, D, and N themselves "have high dielectric constants....and low thermal stability....and thus are not suitable for IC fabrication." (column 2, lines 26-30) Specifically, it is Lee's teaching that only flourinated parylene polymers are useful for the Lee purposes, as clearly stated, inter alia, in the Lee Abstract.

To emphasize that applicants' invention does not involve flourinated parylene polymers, claim 1 is being amended specifically to recite that "said first and second polymers are not fluorinated."

JP '451 is similarly directed to a completely different application of polymer layers than applicants' invention, namely to their use as a protective coating for an ink-jet head assembly

comprising a metallized ceramic substrate and a lid bonded together by epoxy. Applicants have referred to a companion patent owned by the same assignee, namely Watanabe patent 6,808,250, for a description of the ink-jet head itself. Applicants have also referred to the English language Abstract of JP '451, as provided by the European Patent Office, and a copy of that Abstract is attached for the Examiner's consideration.

What JP '451 teaches is that a single polymer layer can provide an insulator layer to protect the electrode formed on the piezoelectric ceramic base of the ink-jet head. (Para 0004 of JP '451) Applicants are not following the JP '451 teaching with respect to an insulating layer on an electrode.

The Examiner has relied on the combination of Lee and JP '451. However, as discussed above, these two references teach the use of parylene polymers for two completely different purposes, taking advantage of different properties of the polymers, and applicants fail to see how their teachings can be combined. In any event, whether singly or together, these references do not disclose or suggest applicants' invention, as now recited in the amended claims.

Accordingly, reconsideration and allowance of claims 1, 3, 5, 6, 7, and 10, as amended, and allowance and passage of this application to issue are respectfully requested.

If the Examiner deems it would in any way expedite the prosecution of this application, the Examiner is invited to telephone applicants' attorney at the number set forth below.


CORRESPONDENCE ADDRESS:

Honeywell International Inc.
Law Dept. AB2
P.O. Box 2245
Morristown, NJ 07962-9806

Respectfully submitted,

Robert J. Saccomanno et al

By:



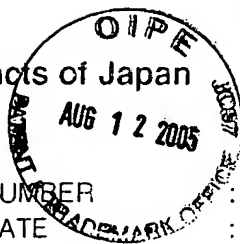
James W. Falk
Attorney for Applicants
Reg. No. 16,154
(201) 393-2065

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EUROPEAN PATENT OFFICE

Patent Abstracts of Japan



PUBLICATION NUMBER : 2000071451
PUBLICATION DATE : 07-03-00

APPLICATION DATE : 02-09-98
APPLICATION NUMBER : 10248321

APPLICANT : KONICA CORP;

INVENTOR : ITO TAKESHI;

INT.CL. : B41J 2/045 B41J 2/055 B41J 2/16

TITLE : PIEZOELECTRIC CERAMIC ELEMENT AND PRODUCTION THEREOF

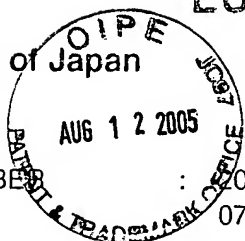
ABSTRACT : PROBLEM TO BE SOLVED: To enhance reliability by composing a protective film for drive electrode out of a plurality of resin films of polyparaxylene or a derivative thereof.

SOLUTION: A film composed of polyparaxylene or a derivative resin thereof is referred to parylene film and formed by so-called CVD employing diparaxylene dimmer or a derivative thereof as a deposition source. More specifically, diparaxylene dimmer is vaporized and thermally decomposed to generate stable diradical paraxylene monomer which is adsorbed onto a basic material and a film is formed through polymerization reaction. In particular, heat resistance is damaged if the first layer parylene film is too thick and pin holes are generated excessively if it is too thin. When high permeation parylene N is employed in the first layer (when diparaxylene dimmer is employed), a plurality of parylene films can be formed after a cover is bonded to a ceramic basis material on which an electrode film is formed. Consequently, performance is sustained by a thick adhesive layer and the entire parts can be protected.

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